

MODIS Technical Team Meeting
Thursday, January 11, 2000
3:00 PM

Vince Salomonson chaired the meeting. Present were Chris Justice, Eric Vermote, Greg Leptoukh, Wayne Esaias, Mike Roberto, Bruce Guenther, Bruce Vollmer, Bill Barnes, Michael King, Dorothy Hall, Bruce Ramsay, Skip Reber, Ed Masuoka, and Barbara Conboy, with Rebecca Lindsey taking the minutes.

1.0 Schedule of Upcoming events

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| • MCST Meeting
Columbia Sheraton Hotel | January 22, 2001 |
| • Land Validation Meeting
Columbia Sheraton Hotel | January 22-23, 2001 |
| • Ocean Group Meeting
Columbia Sheraton Hotel | January 23, 2001 |
| • Atmosphere Group Meeting
GSFC (Bldg. 33, H114) | January 23, 2001 |
| • MODIS Science Team Meeting
Columbia Sheraton Hotel | January 24 - 25, 2001 |
| • MODIS Land Discipline Meeting | January 26, 2001 |
| • MODIS Oceans Discipline Meeting | January 26, 2001 |
| • EOS Investigator Working Group meeting
Ft. Lauderdale, Florida | January 30 - February 1, 2001 |
| • SWGD Data Distribution Workshop | February 1, 2001 (at the IWG) |

2.0 Meeting Minutes

2.1 General Discussion

Salomonson reported that a draft agenda had been developed for the MODIS Science Team Meeting, and would posted on the MODIS web site. He hoped

that discipline leaders are encouraging presentations that are in line with the ESE research strategy. He reminded the group that the strategy is available online from the ESE web site.

Salomonson indicated that Jack Kaye would be coming to Goddard from 1 pm to 3 pm on Monday, January 22 to discuss the recompile with science team members. If anyone could break away from the Science Team Meetings, they would be welcome.

Salomonson also reported that there is a Terra mission overview at the upcoming IGARRS meeting that is full, but there is a Terra MODIS session that is evolving at this time. He indicated that he had one slot left for a paper from the Land Discipline Group.

Salomonson also asked that the discipline teams begin to think about whether they would like to have a results symposium in conjunction with a meeting like the AGU, or whether they would like to have a smaller, local meeting, perhaps in the end-of-December time frame. He also noted that there is a special issue of Remote Sensing of Environment being developed with the leadership of Chris Justice that will provide land-oriented papers. These papers have to be in to the Editor in February.

Salomonson also reported that University of Wisconsin is very pleased with the MODIS direct readout and 250m data. One of the applications has to do with a survey of lake water clarity.

Barnes reported that the VIIRS team is meeting with Raytheon to discuss algorithm development, and Paul Menzel is heading the algorithm development team.

2.2 Instrument Update

Roberto reported that the EOS Terra MODIS cold focal planes remain under temperature control at 83K, requiring a little less than 30 mW of heater power to maintain temperature control. There have been no Formatter faults since the switch to the B-side.

To further investigate the failure of the side A Formatter on the Terra MODIS, Raytheon has put together a test plan to use the spare Command and Telemetry Processor in a Formatter configuration along with the Engineering Model Main Electronics Module. The Goddard MODIS engineering team is seeking Project approval for this testing.

After a failure of the fail-safe actuator, Starsys disassembled the Space View Door Failsafe Actuator for the EOS Aqua MODIS. There was galling (gouging) in the outer ring for the bearings. Dynamic testing is considered the likely cause. Work is ongoing to determine the acceptability of the two spare actuators.

2.3 MCST Update

Guenther reported that MCST is still investigating the issue of apparent fluctuations in mirror sidedness. They believe that the problem may be related to noise, and that it was present from day 174, when MODIS experienced the first formatter reset, to day 305, when the switch was made to B-side electronics.

MCST now believes that this anomaly was seen in PFM sensor thermal vacuum testing, and that we are seeing it in FM thermal vacuum testing as well. MCST is continuing to work on the issue with respect B-side validation; however, Guenther is uncertain how well we will be able to recover L1B data from this period. Since the switch to B-side, the sensor seems to be like it was at launch.

2.4 GES DAAC Update

Vollmer reported that the GES DAAC is processing day 358, and they remain about 18 days behind the leading edge of EDOS. The planned installation of ECS 5 V 06 went more quickly than expected, requiring about half the expected time. It seems to be running well, and the throughput since installation has been about 2x. At this rate, GES DAAC will catch up with EDOS in about two weeks.

There was some discussion of coordinating the timing of data delivery to MODAPS so that MODAPS would not have to pull data from its tape archive in order to process.

In theory, GES DAAC production should be at 4x by the end of January. In actuality, it will likely be somewhere just above 2x. Salomonson wondered whether it was reasonable to hope that production might eventually reach the 4x level, and Vollmer indicated that it was a reasonable expectation. Leptoukh presented posters that were used at AGU meeting to advertise MODIS data products. The posters provided information on what kinds of volumes there are, what products are available, how data are produced, parameters, sample, etc. The GES DAAC had also prepared handouts with similar information. Jim Closs will be taking these posters to the upcoming IWG meeting. Leptoukh indicated that he would bring the posters to the MODIS Science Team Meeting to give the team members a chance to comment. Justice suggested that Salomonson ask the NSIDC and EDC DAACS to bring something similar.

Also, Leptoukh announced that the EDG has browse images available for PGE02, Version 1, starting on December 15th, 2000. The browse images are available for daytime and nighttime (using thermal bands.)

2.5 SDST Update

Masuoka reported that MODAPS is awaiting hardware upgrades and installation of V2. By the end of March, they hope to see 2x production. He reported that MODAPS is planning to turn on HDF compression, which may also improve system efficiency.

There was a discussion of system efficiency and what had already been done to achieve it, as well as what might be done in the future. Justice commented that the SWAMP report documented what had been done at that point, and that Masuoka could update after the IGARSS special session on processing systems. King reported that he and Jon Ranson would be meeting with Diane Wickland and Jack Kaye to discuss the issue, and that he would like an update on the processing system in real numbers, specifically in terms of FLOPS needed. Masuoka replied that while we know what we need in terms of storage (we are currently at 310 GB/day; we would like 450 GB/day), calculating actual megaFLOPS would be difficult.

Justice commented that along with a summary table of that sort, we ought to provide the real figure for what we believe is would cost to do what we think is needed, to contrast with other estimates that have been calculated.

Masuoka felt that what the Project wanted was for MODIS to narrow down where our biggest problems are, and where money could actually help. If we can show what efforts have been made toward achieving system efficiency, we might be able to pinpoint exactly where the problems are.

Masuoka reported that Vermote was working on the problem with the registration and aggregation of bands, and that he would be providing patches to MODAPS.

Finally, Masuoka reported that he is working on a presentation for the Aqua interim operation readiness review. He sought advice from the Team about the development of product availability timelines. Esaias commented that the biggest lesson from Terra was likely that we should allow more time for sensor initialization. Salomonson said he would like to see a comparison with Terra in order to develop the timelines.

2.6 PI Processing Update

Salomonson asked about the status of an experiment to prototype reprocessing. Justice commented that they needed guidance on how much, if any, forward production could be sacrificed. Salomonson indicated that he felt that perhaps we should just keep going forward as we are, and hope that in the future we will have the capacity to do reprocessing. Justice thought it would be very useful if we did something now, however small. No decision was reached regarding the experiment. Also undecided is what the second Golden Month will be.

3.0 Action Items

3.1 Masuoka to update a chart that has quantifiable information about how much processing resources are being used for current production.

3.2 Salomonson to ask the NSIDC and EDC DAACS to bring posters similar to those presented by Leptoukh to the MST Meeting.

3.3 Kempler to provide a hardware upgrade schedule, including direction on processing power.

Status: Open.

3.4 Discipline leads to meet to resolve the issue of beta-release code and science-quality code, and what we need to say about it.

Status: Open.